

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

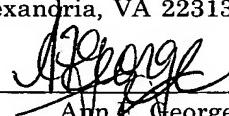
Patent Number: 6,628,037
Issued: September 30, 2003
Name of Patentee: Kinya Matsuzawa
Serial No.: 10/002,033
Filing Date: November 15, 2001
Title of Invention: Power Generator, Electronic Device Using the Same, Method of Setting Plate Thickness in a Magnetic Circuit in Electronically Controlled Timepiece and Power Generator

Certificate
JUL 11 2005
of Correction

CERTIFICATE OF MAILING

I hereby certify that this correspondence, and the documents attached hereto, are being deposited with the United States Postal Service as "First Class" mail with sufficient postage in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date.

Date: June 30, 2005



Ann F. George

REQUEST FOR ADDITIONAL CERTIFICATE OF CORRECTION OF
PATENT
FOR PTO MISTAKE (37 CFR §1.322(a))

Attention Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

It is noted that errors appear in this patent of a clerical, typographical or minor nature or character, as more fully described below, due to a mistake by the Patent and Trademark Office. This mistake was not corrected by the Certificate of Correction dated April 19, 2005.

Attached hereto in duplicate is Form PTO-1050 with at least one copy being suitable for printing.

The exact page and line number where the error occurs in the patent are:

Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho (\Omega \cdot m)$ represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

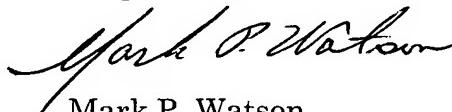
REQUEST FOR CERTIFICATE OF CORRECTION OF
PATENT FOR PTO MISTAKE (37 CFR §1.322(a))

a processor for driving a time display by the electric energy generated by the power generator.--

Patent Claim 17 corresponds to application Claim 15 (Exhibit A). Please see the Preliminary Amendment received by the Patent Office on June 2, 2002, especially pages 2 and 3 (pages 1-3 included as Exhibit B).

Patentee's undersigned attorney may be reached at the telephone number listed below. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



Mark P. Watson
Registration No. 31,448

Please address all correspondence to:
Epson Research and Development, Inc.
150 River Oaks Parkway, Suite 225
San Jose, CA 95134
Customer No. 20178
Phone: (408) 952-6124
Facsimile: (408) 954-9058

Date: June 30, 2005

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 6,628,037

DATED: September 30, 2003

INVENTOR(S): Kinya Matsuzawa

It is certified that an error appears in the above identified patent and that said Letters Patent is hereby corrected as shown below:

Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho (\Omega \cdot m)$ represents resistivity, $f (Hz)$ represents frequency and $B_m (T)$ represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.--

MAILING ADDRESS OF SENDER:

PATENT NO. 6,628,037

Epson Research and Development, Inc.
Intellectual Property Department
150 River Oaks Parkway, Suite 225
San Jose, CA 95134
Customer No. 20178

FORM PTO 1050

Request for Additional Certificate of Correction PTO Mistak1.doc
Customer No. 20178

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 6,628,037

DATED: September 30, 2003

INVENTOR(S): Kinya Matsuzawa

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Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, ρ ($\Omega \cdot m$) represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator---

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FORM PTO 1050

Request for Additional Certificate of Correction PTO Mistak1.doc
Customer No. 20178

Issue Classification		Application No. 10/002,033	Applicant(s) MATSUZAWA, KINYA
		Examiner Burton S. Mullins	Art Unit 2834

ISSUE CLASSIFICATION			
ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
310	254	310	216
INTERNATIONAL CLASSIFICATION			
H	0	2	K
			001/12
			/
			/
			/
n/a		B. Mullins	Total Claims Allowed: 28
(Assistant Examiner) (Date)		Burton Mullins 18 March 2003	O.G. Print Claim(s)
(Primary Examiner) (Date)		(Date)	O.G. Print Fig.
		1	2

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original
1	1	31	61	91	121	151	181
2	2	32	62	92	122	152	182
3	3	33	63	93	123	153	183
4	4	34	64	94	124	154	184
5	5	35	65	95	125	155	185
8	6	36	66	96	126	156	186
9	7	37	67	97	127	157	187
10	8	38	68	98	128	158	188
11	9	39	69	99	129	159	189
12	10	40	70	100	130	160	190
13	11	41	71	101	131	161	191
6	12	42	72	102	132	162	192
7	13	43	73	103	133	163	193
16	14	44	74	104	134	164	194
17	15	45	75	105	135	165	195
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22	20	50	80	110	140	170	200
23	21	51	81	111	141	171	201
24	22	52	82	112	142	172	202
25	23	53	83	113	143	173	203
14	24	54	84	114	144	174	204
15	25	55	85	115	145	175	205
27	26	56	86	116	146	176	206
28	27	57	87	117	147	177	207
26	28	58	88	118	148	178	208
	29	59	89	119	149	179	209
	30	60	90	120	150	180	210

U.S. Patent and Trademark Office

of Paper No. 0303

EXHIBIT

tabbed

A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Kinya Matsuzawa

Group Art Unit: 2834

Serial No.: 10/002,033

Examiner: Not Yet Assigned

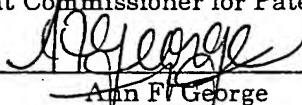
Filed: November 15, 2001

Title: Power Generator, Electronic Device Using The Same, Method Of Setting Plate Thickness In A Magnetic Circuit In Electronically Controlled Timepiece And Power Generator

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on this date.

Date: May 13, 2002


Ann FV George

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Preliminary to examination please amend the above identified application as follows:

IN THE CLAIMS

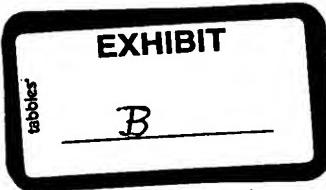
Please substitute the following clean amended claims 12, 14, 15 and 23 for the pending claims with the same number. Marked-up versions of the amended claims follow the "Remarks" section of this amendment.

12. (Amended) The power generator according to claim 1, wherein at least one of the stator and the magnetic core is made of a single layer or a lamination of the soft magnetic material of the plate thickness d.

14. (Amended) An electronic device, comprising:

a power generator comprising:

a rotor having a permanent magnet;


EXHIBITB

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set at a value represented by the following formula of

$$d = \sqrt{\frac{k_h}{k_e} \rho \cdot f^{-0.375} B_m^{-0.175}} \quad (1)$$

where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho (\Omega \cdot m)$ represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor actuated by the electric energy generated by the power generator.

15. (Amended) An electronically controlled timepiece, comprising:

a power generator comprising:

a rotor having a permanent magnet;

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set at a value represented by the following formula of

$$d = \sqrt{\frac{k_h}{k_e} \rho \cdot f^{-0.375} B_m^{-0.175}} \quad (1)$$

where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho(\Omega \text{ m})$ represents resistivity, $f(\text{Hz})$ represents frequency and $B_m(\text{T})$ represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.

23. (Amended) The method of setting plate thickness in a magnetic circuit in a power generator according to claim 21,

wherein the soft magnetic material constituting at least one of the stator and the magnetic core has a lamination structure and the respective layers forming the lamination structure have a minimum thickness of not less than 0.05mm.

Please add the following new claims 24 to 28:

24. (New) The power generator according to claim 6, wherein at least one of the stator and the magnetic core is made of a single layer or a lamination of the soft magnetic material of the plate thickness d.

25. (New) The power generator according to claim 24, wherein the soft magnetic material constituting at least one of the stator and the magnetic core has a lamination structure, and the respective layers forming the lamination structure have a minimum thickness of not less than 0.05mm.

26. (New) An electronic device, comprising:

a power generator comprising:

a rotor having a permanent magnet;

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set within a plate